

### **III- Methods**

#### **III.1- Study design and sample**

The 2002 UAE-GYTS is a school-based cross sectional survey which employed a two-stage cluster sample design to produce representable sample of students in grades seven to ten in both government and private schools.

Data about schools (number of students by section/class and range of ages) were obtained from the Department of Information, Statistics and institutional Research in the Ministry of Education (MOE). Schools were grouped in two strata: 1) Governmental schools and 2) Private schools.

The first stage sample frame consisted of all schools containing any of the grades seven to ten. The data extracted from the MOE documents was forwarded to OSH/CDC to draw the study sample. For each group of schools, a two-cluster sample design was used to produce a representative sample of students. Schools were selected with probability proportional to school enrollment size. A total of fifty government schools and fifty private schools were selected. Within each school, a computer generated list of random numbers of classes was produced to randomly select the classes, grades 7-10, to participate in the survey.

The second sampling stage consisted of systematic equal probability sampling with a random start of classes from each school that participated in the survey. All classes in the selected schools were included in the sampling frame. All students in the selected classes were eligible to participate in the survey. The total number of eligible classes accounted for 864 in the government strata and 646 in the private strata with an average of 28 students per class. 4178 students in one-hundred schools completed the questionnaires and were eligible for data analysis. The final sample included 2112 students from government schools and 2066 students from private schools. The overall response rate was 95.1%.

#### **III.2- The Questionnaire**

The questionnaire consisted of a “core” component and an “optional” component. The core questions allow for regional as well as international comparisons of the survey results, while the optional questions concentrate on specific issues pertaining to individual countries. All countries at EMRO who took part in the GYTS used all 56 questions of the core component of the questionnaire. Few questions were modified to suit the prevailing peculiarities in each country. The optional component of the questionnaire included six questions to investigate other uses of tobacco in the UAE, specifically Hubble bubble smoking and nationality.

A weight has been associated with each questionnaire to reflect the likelihood of sampling each student and to reduce bias by compensating for differing patterns of nonresponse. The weight used for estimation is given by:  $W = W1*W2*F1*F2*F3*F4$

W1 = the inverse of the probability of selecting the school.

W2 = the inverse of probability of selecting the classroom within the school.

F1 = a school-level nonresponse adjustment factor calculated by school size category (small, medium, large)

F2 = a class adjustment factor calculated by school.

F3 = a student-level nonresponse adjustment factor calculated by class.

F4 = a post stratification adjustment factor calculated by gender and grade.

Survey procedures were designed to protect the student's privacy by allowing for anonymous and voluntary participation. The self-administered questionnaire was administered in the classroom. Students recorded their responses on an answer sheet.

### **III.3- Analysis**

We used EpiInfo2000, a software package, that accounted for the complex sampling design and weighing factors in the data set, to calculate standard errors and prevalence estimates.

Statistical differences included in this report were determined by comparing the range of the 95% confidence intervals (95%CI) for the estimates. If the ranges for the 95%CI did not overlap then the differences were statistically significant.

### **IV- Data collection**

The close collaboration between the Ministries of Health and Education and Youth was crucial to the success of the UAE-GYTS. The Ministry of Education (MOE) provided assistance in terms of schools registry for sample selection, issuing necessary letters to the randomly selected schools, updating the sample information and contacting schools. The Ministry of Health (MOH), on its part, was responsible for selecting, training and supervising the research team, members of which were mainly selected from the MOH staff depending on experience and proximity to the location of the randomly selected schools. Nine research teams were formed, each including an area coordinator and 2-4 researchers depending on the number of schools in each medical district. All members of these teams reported back to the national coordinator on daily basis, for assistance in cases of nonresponse, logistics and job completion. Two training workshops were conducted on October 13 and 17, 2001 and were attended by 26 area supervisors and 36 researchers. The participants were assigned to schools and were responsible

for the delivery and collection of all survey documentation forms, answer sheets and questionnaires.

## V- Results

A total of 4178 students completed the survey, representing a 95% overall response rate, and 51.3% of them were males.

### V.1- Tobacco use

Table 1: Percent of students who use tobacco, United Arab Emirates GYTS, 2002

Category	Ever Smoked Cigarettes, Even One or Two Puffs	Ever Smoked Cigarettes, Even One or Two Puffs	Current Use			Never Smokers Susceptible to Initiating Smoking
	Total	1 <sup>st</sup> tried smoking at less than 10 years of age	Any Tobacco Product	Cigarettes	Other Tobacco Products	
Total	20.9 (± 3.2)	25 (± 4.3)	21.9 (± 2.9)	8.9 (± 2.1)	17.8 (± 2.1)	9.8 (± 1.6)
Sex						
Male	20.9 (± 3.8)	23.0 (± 4.6)	29.7 (± 3.3)	14.3 (± 3.0)	22.8 (± 2.6)	13.4 (± 2.1)
Female	10.9 (± 2.3)	31.3 (± 8.6)	12.6 (± 2.1)	2.9 (± 1.0)	11.2 (± 1.9)	6.4 (± 1.1)

One in five (20.9%) of all students have ever smoked cigarettes (Table 1), with ever smoking twice as high for males (20.9) compared to females (10.9). One in four (25.8%) of students who ever smoked cigarettes first tried smoking at less than ten years of age. One in five students (21.9%) currently use any tobacco product, one in ten (8.9%) currently smoke cigarettes and one in five (17.8%) currently use other tobacco products. Compared to females, more than four times as many males currently smoke cigarettes and more than two times as many males currently smoke some other form of tobacco; both results are statistically significant. Among never smokers slightly more than one in ten males (13.4%) and one in twenty females (6.4%) indicated they were likely to initiate smoking during the next year. There exists a statistically significant difference between males and females regarding tobacco use where male users are twice as many as female users. Moreover, there are as many males susceptible to initiate smoking as current users but twice as many females are susceptible to start smoking compared to current female smokers.